

0581913-031601  
FOI 913-031601

MAQTQGTTRRKVCYYYDGDVGNYYYGQGHMPKPHRIRMTHNLLN  
YGLYRKMEIYRPHKANAEEMTKYHSDDYIKFLRSIRPDNMSEYSKQMQRFNVEDCPV  
FDGLFEFCQLSTGGSVASAVKLNKQQTDAVNWAGGLHHAKKSEASGFCYVNDIVLAI  
LELLKYHQRVLYIDIDIHHGDGVVEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGK  
GKYYAVNYPLRDGIDDESIEAIFKPVMSKVMEMFQPSAVVLQCGSDSLSGDRLGCFNL  
TIKGHAKCVEFVKSFNLPMLMLGGGGYTIRNVARCWYETAVALDTEIPNELPYNDYF  
EYFGPDFKLHISPSNMTNQNTNEYLEKIKQRLFENLRMLPHAPGVQMQAIPEDAIPEE  
SGDEDEDDPKRISICSSDKRIACEEEFSDSEEEGEGGRKNSSNFKKAKRVKTEDEKE  
KDPEEKKEVTEEEKTKEEKPEAKGVKEEVKLA (SEQ ID NO:1)

FIGURE 1A

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1 atgtctgggg tctctgcccg ctgggtgctgc tgtctccac tcgggtcatcc ttagaacaca
61 gcctgagcgt ctctgtcact cggggtagac cagcgggga sgcgagcaag atggcgaga
121 cgcagggcac ccggaggaaa gtctgttact actacgacgg ggatgttga aattactatt
181 atggacaagg ccaccaatg aagcctcacc gaatccgat gactcataat ttgctgctca
241 actatgggtc ctaccgaaaa atggaaatct atcgccctca caaagccaat gctgaggaga
301 tgaccaagta ccacagcgat gactacatta aattcttgcg ctccatccgt ccagataaca
361 tgcggagta cagcaagcag atgcagagat tcaacgttgg tgaggactgt ccagtattcg
421 atggcctgtt tgagtctctg cagttgtcta ctgggtggtt tggtggcaagt gctgtgaaac
481 ctaataagca gcagacggac atcgctgtga attgggctgg gggcctgcac ctgcaaaaga
541 agtccgaggg atctggcctc tgttacgtca atgatatcgt ctgggcatc ctggaactgc
601 taaagtatca ccagagggtg ctgtacattg acattgatat tcaccatggg gacggcgts
661 aagaggcctt ctacaccacg gaccgggtca tgactgtgtc ctttcataag tatggagagt
721 acttcccagg aactggggac ctacgggata tcgggggtgg caaaggcaag tattatgctg
781 ttaactaccc gctccgagac gggattgatg acgagtccta tgaggccatt ttcaagccgg
841 tcatgtccaa agtaatggag atgttccagc ctagtgcggt ggtcttacag tgtggctcag
901 actccctatc tggggatcgg ttaggttgcg tcaatctaac tatcaaaggc cagccaagt
961 gtgtggaatt tgtcaagagc tttaacctgc ctatgctgat gctgggaggc ggtgggtaca
1021 ccattcgtaa cgttggcccg tgctggacat atgagacagc tgtggccctg gatacggaga
1081 tccctaataa gcttccatac aatgactact ttgaatactt tggaccagat ttcaagctcc
1141 acatcagtc tccaatatg actaaccaga acacgaatga gtacctggag aagatcaaac
1201 agcgactgt tgagaacctt agaatgctgc acacgaatga atgcaggcga
1261 ttcttgagga cgccatccct gaggagagtg cgcacgcacc tggggtccaa cctgacaagc
1321 gcatctcgat ctgctcctct gacaaacgaa ttgctctgta cgaagacga tccgattctg
1381 aagaggaggg agaggggggc cgcaagaact ctccaactt caaaaagcc aagagagtca
1441 aaacagagga tgaaaaagag aaagaccag aggagaagaa agaagtcacc gaagaggaga
1501 aaaccaagga ggagaagcca gaagccaaag gggccaagga ggaggtcagg ttggcctgaa
1561 tggacctctc cagctctggc ttctgtctga gtccctcacc ttctcttccc c

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(SEQ ID NO: 2)

FIGURE 1B

0981913-031601  
FOI 913-031601

MAYSQGGGKKKVCYYYDGDIGNYYYGQGHMPKPHRIRMTNLLL  
NYGLYRKMEIYRPHKATAEEMTKYHSDEYIKFLRSIRPDNMSEYSKQMHIFNVGEDCP  
AFDGLFEFCQLSTGGSVAGAVKLNRRQOTDMAVNWAGGLHHAKKYEASGFCYVNDIVLA  
ILELLKYFQRVLYIDIDIHHGDGVVEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAG  
KGKYYAVNFPMDGIDDESYGQIFKPIISKVMEMYQPSAVVLQCGADSLSGDRIGCFN  
LTVKGHAKCVEVVKTENLPLMLGGGGYTIRNVARCWTYETAVALDCEIPNELPYNDY  
FEYFGPDFKLHISPSNMTNQNTPEYMEKIKQRLFENLRMLPHAPGVQMQAIPEDAVHE  
DSGDEDGEDPDKRISIRASDKRIACDEEFSDSEDEGEGRNVADHKKGAKKARIEED  
KKETEDKKTADVKEEDKSKDNSEKTDTKGKSEQLSNP (SEQ ID NO:3)

FIGURE 2A.

1 cgccgagctt tcggcacctc tgcgggggtgg taccgagcct tcccggcgcc cctcctctc  
61 cteccaccgg cctgcccctc cccgcgggac tatcgcccc acgtttccct cagccctttt  
121 ctctcccggc cgagccggcg cggcagcagc agcagcagca gcagcaggag gaggagcccc  
181 gtggcgggcg tggccgggga gcccattggcg tacagtcaag gagcgggcaa aaaaaaagtc  
241 tgctactact acgacgggtga tattggaaat tattattatg gacaggggtca tcccatgaag  
301 cctcatagaa tccgcatgac ccataacttg ctgttaaatc atggccttata cagaaaaatg  
361 gaaatatata ggccccataa agccactgcc gaagaaatga caaaatatca cagtgtatgag  
421 tatatcaaat ttctacgggtc aataagacca gataacatgt ctgagtatag taagcagatg  
481 catatatatta atgttggaga agattgtcca gctgttgatg gactctttga gttttgtcag  
541 ctctcaactg gcggttcagt tgctggagct gtgaagttaa accgacaaca gactgatatg  
601 gctgttaatt gggctggagg attacatcat gctaagaaat acgaagcacc aggtattctgt  
661 tacgttaatg atattgtgct tgccatcctt gaattactaa agtatcatca gagagtctta  
721 tatattgata tagatattca tcatgggtga ggtgttgaag aagcttttta tacaacagat  
781 cgtgtaataa cgggtatcatt ccataaataa ggggaatact ttccctggcag agggacttg  
841 agggatattg gtgctggaaa aggcataaac tatgctgtca atttccaat gttgtgatgg  
901 atagatgatg agtcatatgg gcagatatct aagcctatta tctcaaagggt gatggagatg  
961 tatcaaccta gtgctgtggc attacagtgt ggtgcagact cattatctgg tgatagactg  
1021 ggttggtttca atctaacagt caaagggtcat gctaaatgtg tagaagtgtt aaaaaacttt  
1081 aacttaccat tactgatgct tggaggagggt gctacacaa tccgtaatgt tgctcgatgt  
1141 tggacatatg agactgaggt tggccctgat tgrgagattc ccaatgagtt gccatataat  
1201 gattactttg agtatcttgg accagacttc aaactgcata ttagtccctc aaacatgaca  
1261 aaccagaaca ctccagaata tatggaaaag ataaaacagc gtttggttga aaatttgcgc  
1321 atgttacctc atgcacctgg tgtccagatg caagctattc cagaagatgc tgttcatgaa  
1381 gacagtggag atgaagatgg agaagatcca gacaaagaga tttctattcg agcatcagac  
1441 aagcggatag cttgtgatga agaattctca gattctgagg atgaaggaga aggaggtcga  
1501 agaaatgtgg ctgatcataa gaaaggagca aagaaagcta gaattgaaga agataagaaa  
1561 gaaacagagg acaaaaaaac agacgttaag gaagaagata aatccaaggz caacagtggg  
1621 gaaaaaacag ataccaaagg aaccaaatca gaacagctca gcaacccctg aatttgacag  
1681 tctcaccaat ttcagaaaat cattaaaaag aaaaatttga aaggaaatg ttttctttt  
1741 gaagacttct ggcttcatct tatactactt tggcatggac tttattttat ttcaaatggg  
1801 actttttcgt ttttgttttt ctgggcaagc tttattgtga gatttttcaa tcatgaagca  
1861 aaattttctt tctccaccat gcttttztgt atagtattta aaatcgatg gagttattat  
1921 gtcaaaaaaa ctgatctatt aaagaagtaa ttggcctttc tgagctgaaa aaaaaaaa  
1991 aaaa (SEQ ID NO:4)

FIGURE 2B

MAKT VAYFYDPDVGNFHYGAGHPMKPHRLALTHSLVLHYGLYKK  
MIVFKPYQASQHDMCRFHSEYIDFLQRVSPTNMQGFTKSLNAFNVGDDCPVFPGLFE  
FCSRYTGASLQGATQLNNKICDIANWAGGLHHAKKFEASGFCYVNDIVIGILELLKY  
HPRVLYIDIDIHHGDGVQEA FYLTDRVMTVSFHKYGN YFFPGTGDMYEVGAESGRYYC  
LNVPLRDGIDDQSYKHLFQPVINQVVD FYQPTCIVLQCGADSLGCDRLGCFNLSIRGH  
GECVEYVKSFNIPLLVLGGGGYTVRNVARCWTYETSLLVEEAISEELPYSEYFEYFAP  
DFTLHPDVSTRIENQNSRQYLDQIRQTIFENLKMLNHAPSVQIHDV PADLLTYDRTDE  
ADAEERGPEENYSRPEAPNEFYDGDHDNDKESDVEI (SEQ ID NO:5)

FIGURE 3A

09817913-031501

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1 ggaattcgcg gccgcggcgg gcgcgggagg tgcggggcct gctccccccc gacccatggc
61 caagaccgtg gcctatttct acgaccccgga cgtgggcaac ttccactacg gagctggaca
121 ccctatgaag ccccatcgcc tggcattgac ccatagcctg gtcctgcatt acggtctcta
181 taagaagatg atcgtcttca agccatacca ggcctcccaa catgacatgt cccgcttcca
241 ctccgaggac tacattgact tcctgcagag agtcagcccc accaatatgc aaggtctcac
301 caagagtctt aatgccttca acgtaggcga tgactgcccga gtgtttcccg ggtccttga
361 gttctgctcg cgttacacag gcgcattctt gcaaggagca acccagctga acaacaagat
421 ctgtgataat gccattactt gggctggtgg tctgcaccat gccaagaagt ttgaggcctc
481 tggcttctgc tatgtcaacg acattgtgat tggcatcctg gagctgctca agtaccaccc
541 tcgggtgctc tacattgaca ttgacatcca ccattggtgac ggggttcaag aagctttcta
601 cctcactgac cgggtcatga cgggtgtcctt ccacaaatgc ggaaattact tcttccctgg
661 cacagggtgac atgtatgaag tcggggcaga gagggtggcg tactactgct gaacgtggc
721 cctgcgggat ggcatgtgat accagagtta caagcacctt tccagcccg actctctggg
781 ggtagtggac ttctaccaac ccacgtgcat tgtgtccag tgtggagctg actctctggg
841 ctgtgatcga ttgggtgctt ttaacctcag catccgaggg catggggaat cgttgaata
901 tgtcaagagc ttcaatatcc ctctactcgt gctgggtggg ggtggttata ctgtccgaaa
961 tgttgcccg cgtgggacat atgagacatc gctgctggta gaagaggcca ttagtgagga
1021 gcttccctat agtgaatact tcgagtactt tgccccagac ttccaccttc atccagatgt
1081 cagcaccggc atcgagaatc agaactcacg ccagtatctg gaccagatcc gccagacaat
1141 ctttgaaaac ctgaagatgc tgaacctatg acctagtgtc cagattcatg acgtgcctgc
1201 agacctcctg acctatgaca ggactgatga ggctgatgca gaggagaggg gtcctgagga
1261 gaactatagc aggccagagg caccatga gttctatgat ggagaccatg acaatgacaa
1321 ggaaagcgat gtggagattt aagagtggct tgggatgctg tgtcccaagg aatttctttt
1381 cacctcttgg aagggttggg gggaaaaggg gtggctccta ggtcctggg ggtcacccca
1441 ggggtctttg ctgactctgg gaaagagtct ggagaccaca cttggtctc gaacctcta
1501 cctgctcttc ctctctctcc caaggactga caatggtacc tattagggat gagatacaga
1561 caaggatagc tatctgggac attattggca gtgggcccct gaggcagtcc ctagccccc
1621 ttgccccctt tttcttccct gcttccctcg aacccagaga tttttgagg atgaacgggt
1681 agacaaggac tgagattgcc tctgacttcc tcctccctcg ggtcttgacc ttcttctcc
1741 ccttgcttcc agggaaagat aagagagaga gatttggaa gggctctgac tccctaacac
1801 ctgaatccca gatgatggga agtatgtttt caagtgtgg gaggatatsa aatgttctg
1861 ttctcacttt tggcttctat tccattttac cactgttttt atccaataaa ctaagtcggg
1921 attttttcta ctttgatgg ttttagcgcc gcgc (SEQ ID NO: 6)

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FIGURE 3B

09817913.031501  
FOREFEET627860

MLAMKHQQELLEHQKLERHRQEQELEKQHREQKLQQLNKEKG  
KESAVASTEVMKLOEFVLNKKKALAHRLNHCISDPYWGKTQHSSLDQSSPPQS  
GVSTSYNHPVLGMYDAKDDFPLRKTASEPNLKLRSRLKQKVAERRSSPLLRRKDGPPV  
TALKKRPLDVTDSACSSAPGSGPSSPNSSGSVSAENGIAPAVPSIPAETSLAHLVA  
REGSAAPLPLYTSPSLPNITLGLPATGPSAGTAGQDTERLTLPALQQRLSLFPGTHL  
TPYLSTSPLERDGGAAHSPLLQHMVLEQPPAQAPLVTGLGALPLHAQSLVGADRVSP  
SIHKLRQHRPLGRTQSAPLPQNAQALQHLVIOQQHQQFLEKHKQQFQQQQLOMNKIIP  
KPSEPARQPESHPEETEEELREHQALLDEPYLDRLPGQKEAHAQAGVQVKQEPYESDE  
EEAEPREVEPGQRQPSEQELLFRQQALLLEQQRIHQLRNYQASMEAAGIPVSFGGHR  
PLSRAQSSPASATFPVSVQEPPTKPRFTTGLVYDTLMLKHQCTCGSSSSHPEHAGRIQ  
SIWSRLQETGLRGKCECIRGRKATLEELQTVHSEAHTLLYGTNPLNRQKLDKLLGS  
LASVFVRLPCGGVGVDSDTIWNEVHSAGAARLAVGCVVELVFKVATGELKNGFAVVRP  
PGHHAEESTPMGFCYFNSVAVAAKLLQQRLSVSKILIVDWDVHHGNGTQQAFYSDPSV  
LYMSLHRYDDGNFFPGSGAPDEVGTGPGVGFNVMMAFTGGLDPPMGDAEYLAAFRTVV  
MPIASEFAPDVVLVSSGFDAVEGHPTPLGGYNLSARCFGYLTKQLMGLAGGRIVLAE  
GGHDLTAICDASEACVSALLGNELDPLPEKVLQQRPNANAVRSMEKVMETHSKYWRCL  
QRTTSTAGRSLIEAQTCENEEAETVTAMASLSVGKPAEKRPDEEPMEEEPPL (SEQ ID NO: 7)

FIGURE 4A

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1  ggagggttgtg  gggccgcgcgc  cgcggagcac  cgtccccgcgc  gccgcccag  cccgagccccg
61  agccccgcga  cccgcccgcgc  ccgcccgcgc  cgcgcccgcgc  acagcctccc  agcctgggccc
121  cccggcgggcg  ccgtggccgc  gtccccgctg  tcgcccgcgc  agcccagagcc  cgcgcccgcgc
181  cgggtggcg  cgcaggctga  ggagatgcgg  cgcggagcgc  cggagcagg  ctgagcccgg
241  ccgcccgcgc  ccgcccgcgc  aagcgcagcc  ccgcccgcgc  gccgcccgcgc  cattgtccgc
301  cggcccgcgc  gcgcccgcgc  cagcctgcag  gcccttgagc  ccgcccgcgc  tggagcccgc
361  cggctccacac  ccgcccgcgc  cgcggccgtg  ggaggcgggg  gccagcgtg  gccgcccgcgc
421  gtgggacccg  ccgcccgcgc  ggcccccgcgc  gccccttctg  gacctttcca  cccgcccgcgc
481  gaggcggcctt  cgcggcccgc  ggcccccgcgc  cgggggtggg  cagggcagcc  agcggcgccg
541  tctcccgggtg  cggggcccgc  gcccggggcg  caggttcatc  tgcagaagcc  agcggagccg
601  tctgttcaac  ttgtgggtta  accgtcccgc  gagaccttgc  cggcgaggct  cggcgcttga
661  acgtctgtga  cccagccctc  gtggaaattt  tacttgtatg  tggtgggtgg  agtttggagc
721  tcgttggagc  tatcgtttcc  gtggaaattt  tgagccattt  cgaatcactt  aaaggagtgg
781  acattgtctg  caatgagctc  ccaaagccat  ccagatggac  tttctggccg  agaccagcca
841  gtggagctgc  tgaatcctgc  ccgctggaac  cagatgcca  gcacgggtgg  tgtggccagc
901  gcgctgcctc  tgcaagtggc  gccggccctg  cagatcctca  accagcgga  gctggagagg
961  ttctcactgc  ctgtggcaga  gatccagagg  cagctccacg  agcacatcaa  gcaataacag
1021  gcgctcaagc  agaagcagca  gcacgaggcg  cagctccacg  accagcgga  gctggagagg
1081  cagagcagc  tctcccggca  ccagcaggag  ctgctggaac  agaagctgca  gcaactcaag
1141  gagatgctgg  ccattgaagca  ccagcaggag  caccgggagc  aagtgagat  gaagttaaa
1201  caccgcccag  agcaggagct  ggagagcag  gccagcacag  aagtgagat  ctgcatctc
1261  aacaaggaga  agggcaaaag  gagtgccgtg  gccaccggga  atctgaacca  ctgcatctc
1321  gaattttgtc  tcaataaaaa  gaagcgcgtg  gccaccggga  cccttgacca  gagtttctca
1381  agcagccctc  gctactggta  cgggaaaaac  cagcacagtt  tgggaatgt  cagcgccaaa
1441  cccagagcg  gagtgtcgac  ctctataaac  caccgggtcc  tgggaatgt  gtcaggcta
1501  gatgacttcc  ctcttaggaa  aacagcttct  gaaccgaatc  tgaattacg  gtcaggcta
1561  aagcagaaag  tggccgaaag  accgagcagc  cccctgttac  scaggaaaga  cgggcccagt
1621  gtcactgttc  tggccgaaag  accgagcagc  cccctgttac  scaggaaaga  cgggcccagt
1681  ggctccggac  ccagctcacc  caacaacagc  tccgggagcg  gtcacagact  cccgctgcag  cagcgcccca
1741  gcgcccgcgc  tccccagcat  cccggcgag  tccgggagcg  tccgggagcg  tccgggagcg  gaacgggtatc
1801  gaaggctcgg  ccgctccact  tcccctctac  acatcgccat  cccctgccc  ccttgccc  catcagctg
1861  ggccctgcctg  ccacgggccc  ctctgcccgc  acgscggggc  agcaggacac  cactccctac
1921  acccttcccc  cctccagca  gaggtctctc  cttttcccc  gcacccact  cctgcccac
1981  ctgagcactt  cgccttggg  gcgggacgga  ggggcagcgc  acagccctc  cctgcccac
2041  atggtcttac  tggagcagcc  accggacaa  gcacccctc  tcacagccc  gggagcactg
2101  cccctccacg  cacagtctt  ggttgggtga  gaccgggtg  cccctccat  ccacagctg
2161  cggcagcacc  gcccactggg  gcggacccag  tccggcccgc  tgggaaaca  cggccaggct
2221  ctgagcacc  tggcatcca  gcagcagcat  cagcagttt  tgggaaaca  caagcagcag
2281  ttccagcagc  agcaactgca  gatgaacaag  atcatccca  agccaagcga  gccagcccgc
2341  cagcgggaga  gccacccgga  gtagacggag  gaggaagctc  gtagaccca  ggcggcgctg
2401  gacgagccct  acctggaccg  gctgcccggg  cagaaggagg  cagagccccc  acgggaggtg
2461  caggtgaagc  aggagcccat  tgagagcgt  gaggaagagg  cagagccccc  agccctcctg
2521  gagccggggc  agcggcagcc  cagtgagcag  gagctgctct  tcagacagca  ggcggcgctg
2581  ctggagcagc  agcggatcca  ccagctgagg  aactaccagg  cgtccatgga  ggcggcgctg
2641  atccccgtgt  ccttcgycgc  ccacagccct  ctgtcccggg  cgcagctctc  acccgctct
2701  gccaccttcc  ccgtgtctgt  gcaggagccc  cccaccaagc  cgcagctctc  acccgctct
2761  gtgtatgaca  cgtgtatgct  gaagcaccag  tgcacctgcg  gtagatgag  cagccacccc
2821  gagcacgccc  ggaggatcca  gagcatctgg  tcccgcctgc  agctacagac  ggtgactcg
2881  aaatgcgagt  gcatccgcgc  acgcaaggcc  accctggag  agctacagac  ggtgactcg
2941  gaagcccaca  cctcctgta  tggcagcaac  cccctcacc  ggcagaaact  ggacagtaag
3001  aaactcctag  gctcgtctcc  ctccgtgttc  cccctcacc  cctcgggtgg  ggtgactcg
3061  gacagtgaac  ccatatggaa  cgaagtgcac  cccggcctcc  cagcccgct  ggtgactcg
3121  tgcgtggtag  agctggtctt  caaggtggcc  acaggggagc  tgggagatgg  ccttgcctg
3181  gtccgcccc  ctggacacca  tgcggaggag  agcacgccc  tgggctttt  ctacttcaac
3241  tccgtggccg  tggcagccaa  gcttctgcag  cagaggttga  gctgagcaa  gatccctatc
3301  gtggactggg  acgtgcacca  tggaaacggg  acccagcagg  ccttctacag  cagccctagc
3361  gtcctgtaca  tgtccctcca  ccgtacgac  gatgggaact  tcttcccagg  cagcggggct
3421  cctgatgagg  tgggacaggg  gccggcgctg  ggttcaacg  tcaacatggc  tttaccggc
3481  ggcctggacc  ccccatggc  cccggatgg  ggttcaacg  ccttcaagc  ggtgactcg
3541  ccgatcgcca  gcggttctgc  cccggatgg  ggttcaacg  ccttcaagc  ggtgactcg

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FIGURE 4B (SHEET 1 OF 3)



3601 gagggccacc ccacccctct tgggggctac aacctctccg ccagatgctt cgggtacctg  
3661 acgaagcagc tgatgggccc ggctggcgcc cggatgtgcc tggccctcga gggaggccac  
3721 gacctgaccg ccatttgcga cgccctcgaa gcatgtgttt ctgcccgtct gggaaacgag  
3781 cttgatccctc tcccagaaaa ggtttttacag caaagaccga atgcaaacgc tgtccgttcc  
3841 atggagaaaag tcatggagat ccacagcaag tactggcgct gcctgcagcg cacaacctcc  
3901 acagcgggggc gttctctgat cgaggctcag acctgscgaga acgaagaagc cgagacggtc  
3961 accgccatgg cctcgcgtgc cgtggcgctg aagcccgccg aaaagagacc agatsaggag  
4021 cccatggaag aggagccgcc cctgtagcac tccctcgaag ctgctgttct cttgtctctc  
4081 tgtctctgtc ttgaagctca gccaaagaac tttcccggtg caccgctgcg tcccaccgtg  
4141 gggctctctt ggagcaccga gggacaccga gcgtgcaaca gccacgggaa gcctttctgc  
4201 cggccaggcc cagaggtctc gagacgcaca tgcacgcctg ggcgtggcag cctcacaggg  
4261 aacacgggac agacgcgggc gacgcgcaga cacacggaca cgcggagcc aagcacctc  
4321 tggcggggtcc cgcaagggac gccgtggaa gaaagagcc gtggcaacag cgggcccagc  
4381 tgccgaattc agttgacacg aggcacagaa aacaaatctc aaagatctaa taatacaaaa  
4441 caaacttgat taaaactggg gcttaaagtt tattaccac aactccacag tctctgtgta  
4501 aaccactcga ctcatcttgc agcttatctt tttttcaazg aggacgtttt ctacggctgt  
4561 gggcgccctc tgtgaacat agcgggtgtg ggcggggggt ctgcacccg gtgggggaca  
4621 gagggacctt taaagaaaac aaaactggac agaaaacagga atgtgagctg ggggagctgg  
4681 cttagagttt tcaaaagcca tgggctgggt ctgaggaaca cctttttttt tattgtcttg  
4741 gtggattttt gtggctgggt gtttctgtg gccagccgag cctggcajtg aggggctgca  
4801 cagcaggaat gagcctcaa gcacgggcac cagccgtcat ctccggggc aggggctgca  
4861 gagctggcct cctgtttttg ctttatgtct gtttaagaaa aatggagcta gtcccaaaaa  
4921 gcccggcggt cccgttggag gttttgaagt ccaacaattt taaacgaat ccaaagtgtc  
4981 agtggcaaat cccgttggag gagcatctcc atctggtcgt gaagcatgtg gtaggcacac  
5041 ctcacacgtc acatacgatt tgctttttat taaaagcaag tagcatgaag tattgtctaa  
5101 ttgcagtgtt acgatcggaa tgctttttat taatatata tccaatgtat tccaagctaa  
5161 atctttaggt taaataaata tatatatgta taatatata ataatgcatt tatagaaaaa  
5221 gaaacttact tgattcttat gaaatcttga ttgcgaaggc ccttgcaaat ggaatggctg  
5281 gtatatatat atataaaaa tgaatgcaga ggaatcctgat tgattgaaat tcatgttttc  
5341 tgaatttgct ctcaagggtg atttcgagat gccaacacat tgcgccactg gcaactaccc  
5401 tcaagctcca gattggctag ttaattattt tcaaacagaa ccgctcccg tcccaagcct  
5461 tacaagtttg tactttcatt ttaattattt tagcaaaaga tataaatttg ctgttgattt  
5521 tcatgcacat atgtacctaa tgagttttta aatagcatl gttttatgaa ttttacattt  
5581 ttgtatgaat tttttcacaa aaagatcctg taataatgtc taatctttt tctttctga  
5641 tccctcacca tttagcaatt ttttacctt caaaggcttt taattattt tttttctatt  
5701 attcttgctt gtacattttt cagcgtacag aattggtgct gtcagattct cttttcagaa  
5761 tttgtacgat gagtrctctg gtcttttccg agtgacacca acgatttgtt ctttccctgg  
5821 agtgagagga gggaccgtag gtcttttccg agtgacacca taactttcaa cactagtagt  
5881 ctgtccctagg agctgtataa agaagcccag gggctctttt cagggaggg tgccttaggat  
5941 attacgaggg gtgggtgtgt tttccctccc gteggcaagg cagggaggg tgaactcat  
6001 gcccggccac cctggggagg ttgccagatg ccggggggcag tcagcattza tccaaagacc  
6061 gtttaaaact ctctgaccac atcgtcagga tagaattcta ctttgagttt tgggttttt  
6121 ttttgagcat gtcagcaatg catggggcac acgtggggct ctttaccac tgggttttt  
6181 cactgcagc cacgtggcca gccctggatt ttggagcctg tggctgcaag gaaccaggg  
6241 acccttggtg cctgttgaac ctgcaggag ggtatgattg cctgaccagg acagccagtc  
6301 ttactctttt ttctcttcaa cagtaactga cagtcacgtt ttactggtaa cttattttcc  
6361 agcacatgaa gccaccagtt tcattecaaa gtgtatatg ggttcagact tgggggcaga  
6421 agttcagaca caccgtgctc aggagggacc cagagccgag ttttgaccaa tggtaaagtt  
6481 tacagggtag cttctgaaat taactcaaac gtgtatatg ggttttgg agcaggcaga  
6541 tcaacttggt actgggctgc tgatggctcag cctgtgtggt cactctttt tctgaagccc  
6601 acggtcttgg gacttgrttg actttccctt ccctgggtgc cactctttt gcasggccc  
6661 agattggcaa gaggagctgg tccattcccc atttcatggca cagagcagtg ggggatccct  
6721 cctagcaggc tcttctggcc tccctggcct catctctcgc atagccctct ggggatccct  
6781 ccacctgccc tcttaccocg ccgtggctta tggggaggaa tgcatactt cactttttt  
6841 ttttaagcag atgatgggt aacatggact gctcagtggt caggttatca gttgggggac  
6901 ttaattctaa tctcattcaa atggagacg cctctgcaaa ggcctggcag gggggggac  
6961 gtttcatctg tcaagctcact ccagcttcac aatgtgctg agagcattac tctgtagccc  
7021 tttcttggaa gacacactcg gctcttctcc acagcaagcg tccagggcag atggcagagg  
7081 atctgcctcg gcgtctgcag gcgggaccac gtcagggagg gttccttcat gtgttctccc  
7141 cgtgggtcct tggaccttta gcccttttct tcttttgcaa aggccttggg ggcactgggt  
7201 gggagtcagc aagcagacac tttatatccc tttgagggaa accctgatga cccactggg  
7261 cctcttggcg tctgcccctgc cctcgcggct tcccgcggtg ccgcagcgtg cccacgtgac

FIGURE 4B (SHEET 2 OF 3)

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7321 cacgccccac cagcaggcgg ctgtcccggg ggccgtggcc cgtggggact ggccgccccct
7381 ccccgagcgtc ccagggtctt ggttctggag ggccactttg tcaagggtgt tcagtttttc
7441 ttactttctt ttgaaaatct gtttgcaagg ggaaggacca ttctgtaatg gtctgacaca
7501 aaagcaagtt tgatttttgc agcactagca atggactttg ttgtttttct ttctgatcag
7561 aacattccctt ctttactggg cacagccacg tgctcattcc atcttctctt ttgtagactt
7621 tgggcccacg tgttttatgg gcattgatac atatataaat atatagatat aatatatat
7681 gaatatattt ttttaagtct cctacacctg gaggttgcat ggactgtacg accggcatga
7741 ctttataattg tatacagatt ttgcacgcca aactcggcag ctttggggaa gaagaaaaat
7801 gcctttctgt tcccctctca tgacatttgc agatacaaaa gatggaaatt ttctgtaaa
7861 acaaaacctt gaaggagagg agggcgggga agtttgctgc ttattgaact tattcttaag
7921 aaattgtact ttttattgta agaaaaataa aaaggactac ttaaacattt gtcatattaa
7981 gaaaaaaaagt ttatctagca ctgtgtgcat accaataata gagtttattg ttttattgtg
8041 gaaacagtgt tttagggaat ctactcagaa ttcacagtga actgcctgtc tctctcagc
8101 tgatttggag gaattttgtt ttgttttgtt ttgtttgttt ccttttatct ccttccacgg
8161 gccaggcgag cgccgccccg cctcactggc ctgttgacgg tttattctga ttgagaactg
8221 ggcggactcg aaagagtcct cttttccgca cagctgtgtt gactttttta ttacttttag
8281 gtgatgtatg gctaagattt cactttaagg agtcgtgaac tgtgcgagca ctgtgggtta
8341 caattatact ttgcatcgaa agsaaaccat ttcttcattg taacgaagct gagcgtgttc
8401 ttagctcggc ctacttctgt ctctggcatt gattaaaagt ctgctattga aagaaaaag

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(SEQ ID NO: 8)

FIGURE 4B (SHEET 3 OF 3)

09817913.031604

LRQGGTLTGKFMSTSSIPGCLLGVALEGDGSPHGHASLLQHVL  
LEQARQQSTLIAVPLHGQSPLVTGERVATSMRTVGKLPRHRPLSRTQSSPLPQSPQAL  
QQLVMQQQHQQFLEKQKQQQLQLGKILTKTGELPRQPTTHPEETEEELTEQQEVLLGE  
GALTMPREGSTESESTQEDLEEEDEEEDGEEEEDCIQVKDEEGESGAEEGPDLEEPGA  
GYKKLFSDAQPLQPLQVYQAPLSLATVPHQALGRTQSSPAAPGGMKSPPDQPVKHLFT  
TGVVYDTFMLKHQCMCGNTHVHPEHAGRIQSIWSRLQETGLLSKCERIRGRKATLDEI  
QTVHSEYHTLLYGTSPNLRQKLDKLLGPISQKMYAVLPCGGIGVDSDTVWNEHSS  
SAVRMAVGCLLELAFKVAAGELKNGFAIIRPPGHAEESTAMGFCFFNSVAITAKLLQ  
QKLVNGKVLIVDWDIHHGNGTQQAFYNDPSVLYISLHRYDNGNFFPGSGAPEEVGGGP  
GVGYNVNVAWTGGVDPPIGDVEYLTAFTVVMPIAHEFSPDVVLVSAGFDAVEGHLSP  
LGGYSVTARCFGHLTRQLMTLAGGRVVLALGEGHDLTAICDASEACVSALLSVELQPL  
DEAVLQQKPNINAVATLEKVIETIQSKHWSCVQKFAAGLGRSLREAQAGETEEAETVSA  
MALLSVGAEEQAQAAAAREHSRPAEEPMEQEPAL (SEQ ID: NO: 9)

FIGURE 5A

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1  ccctgcgcca ggggtggcacg ctgaccggca agttcatgag cacatcctct attcctggct
61  gcctgctggg cgtggcactg gagggcgacg ggagccccc cgggcatgcc cccctgctgc
121  agcatgtgct gttgctggag caggcccggc agcagagcac cctcatctgt gtgccactcc
181  acgggcagtc cccactagtg acgggtgaac gtgtggccac cagcatgcgg acggtaggca
241  agctcccgcg gcatcggccc ctgagccgca ctacgtcctc accgctgccc cagagtcccc
301  agggccctgca gcagctggtc atgcaacaac agcaccagca gttcctggag aagcagaagc
361  agcagcagct acagctgggc aagatcctca ccaagacagg gaagctgccc aggcagcccc
421  ccaccacccc tgaggagaca gaggaggagc tgacggagca gcaggaggtc ttgctggggg
481  agggagccct gaccatgccc cgggagggtc ccacagagag tgagagcaca caggaagacc
541  tggaggagga ggacgaggaa gaggatgggg aggaggagga gsattgcata caggttaagg
601  acgaggaggg cgagagtggg gctgaggagg gggccgactt ggaggagcct ggtgctggat
661  acaaaaaact gttctcagat gcccagccgc tgcagccttt gcagggtgtc caggcgcccc
721  tcagcctggc cactgtgccc caccaggccc tgggcccgtac ccagtcctcc cctgctgccc
781  ctgggggcat gaagagcccc ccagaccagc ccgtcaagca cctcttcacc acaggtgtgg
841  tctacgacac gttcatgcta aagcaccagc gcatgtgcgg gaacacacac gtgcacctg
901  agcatgtctg ccggatccag agcatctggg cccggctgca ggagacaggc ctgcttagca
961  agtgcgagcg gatccgaggt cgcaaagcca cgctagatga gatccagaca gtgcaacttg
1021  aataccacac cctgctctat gggaccagtc cctcaaccg gcagaagcta ggcactctg
1081  agttgtctcg ccccatcagc cagaagatgt atgtgtgtgt gcttcttcca atggcagtg
1141  tggacagtga caccgrgtgg aatgagatgc actcctccag tgctgtgccc gctcaagaat
1201  gctgcctgct ggagctggcc ttcaagggtg ctgcaggaga gctcagaat ggatttgcca
1261  tcatccggcc cccaggacac cacgccgagg aatccacagc catgggattc tgcttcttca
1321  actctgtagc catcaccgca zaactcctac agcagaagtt gaacgtgggc aaggtcctca
1381  tcgtggactg ggacattcac catggcaatg gcacccagca ggcgttctat aatgacctct
1441  ctgtgctcta catctctctg catcgctatg acaacgggaa cttcttcca ggctctgggg
1501  ctctgaaga ggttgggtgga ggaccaggcg tgggtacaa tgtgaactg gcattggacg
1561  gaggtgtgga ccccccat tggagacgtg agtaccttac agccttcagg acagtgtga
1621  tgcccatgct ccacgagttc tcacctgatg tggctcctag ctccgcccgg ttgatgtg
1681  ttgaaggaca tctgtctcct ctgggtgggt actctgtcac cgccagatgt ttggccact
1741  tgaccaggca gctgatgacc ctggcagggg gcccgggtgg gctggccctg gagggtggcc
1801  atgacttgac cgccatctgt gatgcctctg aggcctgtgt ctcggctctg ctcatgtag
1861  agctgcagcc cttggatgag gcagtcctgc agcaaaagcc caacatcaac gcagtggcca
1921  cgctagagaa agtcatcgag atccagagca aacactggag ctgtgtgca aggttcgcc
1981  ctgggtctggg ccggtccctg cgagaggccc aagcaggtga gaccgaggag gccgagactg
2041  tgagcgccat ggctctgctg tgggtggggg ccgagcaggc ccagcctgag gcagcccggg
2101  aacacagccc caggccggca gaggagccca tggagcagga gcttgcctg tgacgccccg
2161  gccccatcc ctctgggctt caccattgtg attttgttta tttttctat taaaaaaaa
2221  aagtcacaca ttc (SEQ ID NO:10)

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FIGURE 5B

1 mtstgqdstt trqrrsrqnp qspqqdssvt skrnikkav prsipnlaev kkkgkmmklg  
61 qameedlivg lqgmdlnlea ealagtglvl deqlnefhcl wddspegpe rlhaiekeqli  
121 qeglldrcvs fqrfaekee lmlvhsleyi dlmettqymn egelrvladv ydsvyhpnps  
181 yscacclasgs vlrlvdavlg aeirngmaii rppghhaqhs lmdgycmfhn vavaaryaqq  
241 khrrrvliv dwdvhhgqgt qftfdqpsv lyfsihryeq grfwphlkas nwwtggfgqg  
301 qgytinvpwn qvgmrdadyi aafihvllpv alefqpqlvl vaagfdalqg dpkgemaatp  
361 agfaqlthll mglaggklil sleggynlra laegvsaslh tllgdpcpml espgapcrsa  
421 qasvscalea lepfwevlvr stetverdnm eednveesee egpweppvlp iltwpvlqsr  
481 tglvydqnmm nhcnlwdshh pevppqilri mcrleelgla grcltltprp atealltch  
541 saeyvghlra tekmttreh ressnfdisy icpstfacaq latgaacriv eavlsgevlv  
601 gaavvrppgh haeqdaacgf cffnsvavaa rhaqtisgha lrilivdwdv hhngtqhmf  
661 eddpvlyvs lhrydhgtff pmgdegassq igraagtgt vnvawngprm gdadylaawh  
721 rlvpiayef npelvlvsag fdaargdplg gcqvspgya hlthllmgl sgrilileg  
781 gynltsises maactrllg dppplltpr pplsgalasi tetiqvhrry wrslrmkve  
841 dregpssskl vtktapqak prlaermtr ekkvleagmg kvtsasfgee stpgqtnset  
901 avvaltqdqp seatggatl aqtiseaaig gamlgqttse eavggatpdq ttseetvgga  
961 ildqtseda vggatlgqtt seeavggatl aqtiseaame gatldqttse eapggatliq  
1021 tplsstdhq tpptspvqgt tpqispstli gslrtlelgs esqgasesqa pgeenllgea  
1081 agqqdmadsm lmqgsrgltd qaifyavtvl pwcphlvavc pipaagldvt qpcgdcgtiq  
1141 enwvclscyq vycgryingh mlqhhgnsgh plvlsyidls awcyycqayv hhqalldvkn  
1201 iahqnkfged mphph (SEQ ID NO:11)

FIGURE 6A

1 gggcagtcctc ctgaggagcg gggctgggtg aaacgctagg ggcgggatct ggcggagtgg  
 61 aagaaccgcg gcagggggcca agcctcctca actatgacct caaccggcca ggattccacc  
 121 acaaccaggc agcgaagaag taggcagaac cccagtcgc cccctcagga ctccagtgtc  
 181 acttcaagc gaaatattaa aaagggagcc gtccccgct ctatcccaa tctagcggag  
 241 gtaaagaaga aaggcaaat gaagaagctc ggccaagcaa tggagaaga cctaactgtg  
 301 ggactgcaag ggatggatct gaaccttgag gctgaagcac tggctggcac tggcttggg  
 361 ttgatgagc agttaatga attccattgc ctctgggatg acagcttccc ggaaggccct  
 421 gagcggctcc atgccatcaa ggagcaactg atccaggagg gcctcctaga tgcctgcgtg  
 481 tctttcagg cccggtttgc tgaagaggaa gagctgatgt tggttcacag cctagaatat  
 541 attgatctga tggaaacaac ccagtacatg aatgaggagg aactccgtgt ctagcagac  
 601 acctacgact cagtttatct gcacccaac tcatactcct gtgcctgcct ggccctcaggc  
 661 tctgtcctca ggctgggtga tgcggctcctg ggggctgaga tccggaatgg catggccatc  
 721 attaggcctc ctggacatca cggccagcac agtcttatgg atggctattg catgttcaac  
 781 cacgtggctg tggcagcccg ctatgctcaa cagaaacacc gcacccggag ggtccttacc  
 841 gtagattggg atgtgcacca cggtaagga acacagtcca ccttcgacca ggacccagct  
 901 gtctcttatt tctccatcca ccgctacgag cagggtaggt tctggcccca cctgaaggcc  
 961 tctaactggt ccaccacagg ttccggccaa ggccaaggat ataccatcaa tgtgccttgg  
 1021 aaccagggtgg ggatgcggga tgcctactac attgctgctt tctgcacgt cctgctgcca  
 1081 gtgcctcctg agttccagcc tcagctgggc ctgggtggctg ctggatttga tgcctgcaa  
 1141 ggggacccca agggtagat ggccgccact ccggcagggt tgcctcagct aaccacatg  
 1201 ccatgggic tggcaggagg caagctgac ctgtctctgg aggggtggcta caacctccg  
 1261 gccctggctg aaggcgctag tgcctcgtc cacacccttc tgggagacc ttgccccatg  
 1321 ctggagtca ctgggtcccc ctgccggagt gccaggctt cagtttctg tgcctggaa  
 1381 gcccttgagc ccttctggga gggtcttctg agatcaactg agaccgtgga gagggacaac  
 1441 atggaggagg acaatgtaga ggagagcgag gaggaaggac cctgggagcc cctgtgctc  
 1501 ccaatctga catggccagt gctacagtct cgcacagggc tggctatga ccaaatatg  
 1561 atgaatcact gcaacttctg ggacagccac caccctgagg taccacagcg catcttgcg  
 1621 atcatgtcc gtctggagga gctgggcctt gccgggcgct gcctcaccct gacaccgcg  
 1681 cctgccacag aggtgagct gctcactgt cacagtgtg agtacgtggg tcatctccg  
 1741 gccacagaga aaatgaaac ccgggagctg caccgtgaga gtccaactt tgactccatc  
 1801 tatatctgcc ccagtacct cgcctgtgca cagcttgcca ctggcgctgc ctgccgctg  
 1861 gtggaggctg tgcctcagg agaggttctg aatggtgctg ctgtggtgctg tccccagga  
 1921 caccacgcag agcaggatgc agcttgcggg tttgtctt tcaactctgt ggctgtggct  
 1981 gctgccatg cccagactat cagtgggcat gccctacgga tctgattgt ggattgggag  
 2041 gtccaccacg gtaatggaac tcagcacatg ttgaggatg acccagctgt gctatatgtg  
 2101 tccctgcacc gctatgatca tggcaccttc tccccatgg gggatgaggg tggcagcagc  
 2161 cagatcgccg gggctgcggg cacaggcttc accgtcaacg tggcatgga cgggccccgc  
 2221 atgggtgatg ctgactacct agctgcctgg catgcctgg tgcctccat tgcctacgag  
 2281 ttaaccag aactggtgct ggtctcagct ggctttgatg ctgcacgggg ggatccgctg  
 2341 gggggctgcc aggtgtcacc tgagggttat gccacctca cccactgct gatgggcctt  
 2401 gccagtggcc gattatcct tatctagag ggtggctata acctgacatc catctcagag  
 2461 tccatggctg cctgcactg ctccctcctt ggagaccac caccctgct gaccctgcca  
 2521 cggccccac tatcaggggc cctggcctca atcactgaga ccatcaagt ccatgcaga  
 2581 tactggcgca gttacgggt catgaaggta gaagacagag aaggaccctc cagtctaag

Figure 6B (sheet 1 of 2)

2641 ttggtcacca agaaggcacc ccaaccagcc aaacctaggt tagctgagcg gatgaccaca  
2701 cgagaaaaga aggttctgga agcaggcatg gggaagtica cctcggcatc atttggggaa  
2761 gagtccactc caggccagac taactcagag acagctgtgg tggccctcac tcaggaccag  
2821 ccctcagagg cagccacagg gggagccact ctggcccaga ccatttctga ggcagccatt  
2881 gggggagcca tgctgggcca gaccacctca gaggaggctg tcgggggagc cactccggag  
2941 cagaccacct cagaggagac tgtgggagga gccattctgg accagaccac ctgagggat  
3001 gctgttgggg gagccacgct gggccagact acctcagagg aggctgtagg aggagctaca  
3061 ctggcccaga ccatctcgga ggcagccatg gagggagcca cactggacca gactacgtca  
3121 gaggaggctc cagggggcac cgagctgac caaactctc tagcctcgag cacagaccac  
3181 cagaccccc caacctcacc tgtgcaggga actacacccc agatatctcc cagtacactg  
3241 attgggagtc tcaggacctt ggagctaggc agcgaatctc aggggggctc agaattctag  
3301 gcccaggag aggagaacct actaggagag gcagctggag gtcaggacat ggctgattcg  
3361 atgctgatgc agggatctag gggcctcact gatcaggcca tattttatgc tggacacca  
3421 ctgccctggg gtccccattt ggtggcagta tgccccatac ctgcagcagg cctagacgtg  
3481 acccaacctt gtggggactg tggaacaatc caagagaatt ggggtgtgtc ctcttgctat  
3541 caggtctact gtggtcgta catcaatggc cacatgctcc aacaccatgg aaattctgga  
3601 caccgctgg tctcagcta catgcacctg tcagcctggg gtactactg tcaggcctat  
3661 gtccaccacc aggtctctct agatgtgaag aacatgccc accagaacaa gtttggggag  
3721 gatatgcccc acccacata agccccagaa tacggtccct ctccacctc tgaggccac  
3781 gatagaccag ctgtagctca ttccagcctg taccttggat gaggggtagc ctccactgc  
3841 atccatcct gaatatcctt tgcaactccc caagagtgtc tatttaagt ttaatactt  
3901 taagagaact gcgacgatta attgtggatc tccccctgcc cattgctctc ttgaggggca  
3961 cactactcc agcccagaag gaaagggggg cagctcagt gcccgaagag ggagctgata  
4021 tcatgaggat aacattggcg ggagggggagt taactggcag gcattggcaag gttgcatatg  
4081 taataaagta caagctgtt (SEQ ID NO: 12)

FIGURE 6B  
(Sheet 2 of 2)

1 mdlrvqgrpp vepppeptll alqrpqrllh hlflaglqqq rsvepmrlsm dtpmpelqvg  
 61 ppeqelrqll hkdkskrsav assvvkqkla evilkqqaa lertvhpnsip gipyrtlepl  
 121 etegatrsmi ssflppvpsl psdppehfpl rktvsepnk lrykpkksle rknpllrke  
 181 sappslrrp aetlgdssps ssstpasgcs spndsehgpn pilgdsdrrt hptlgprgpi  
 241 lgsphtplfl phglepeagg tlpstlqpil lldpsgshap lltvpglgpl pfhfaqlmt  
 301 terlsqgslh wplsrtsep lppsatappp pgpmqprleq lkthvqvkr sakpsekprl  
 361 rqpisaedle tdgggpgqvvd dglehrelg hgqpeargpa plqqhpqvll weqqrlagrl  
 421 prgstgdtvl lplaqgghrp lsraqsspaa paslsapepa sqarvlsse tpartlpft  
 481 gliydsvmlk hqcscgdnr hpehagriqs iwsrlqergl rsqceclgr kasleelqsv  
 541 hserhvllyg tnplsrlkld ngklagllaq rmfemlpcgg vgvdtdtiwn elhssnaarw  
 601 aagsvtdlaf kvasrelkng favvrppghh adhstamgfc ffnsvaiacr qlqqqskask  
 661 askilivdwd vhhngtqqt fyqdpvlyi slhrhddgnf fpgsgavdev gagsgegfnv  
 721 nvawaggldp pmgdpeylaa frivvmpiar efspdlvls agfdaaeghp aplggyhvsa  
 781 kcfgymtqql mnlaggavvl alegghdita icdaseacva allgnrvdpl seegwkqkpq  
 841 pqchplsgr dpgaq (SEQ ID No: 13)

FIGURE 7A



1 ataataccta ccttgcagga ccacgacagg attaatgag gaaaaacccc catgagagt  
 61 ttttgcatt gtcaagttag cctgagggag gctgaggggg gatcaggctg tatcatgccc  
 121 ccgaggacaa actttccagt ttaccctgct cctctctct gtccttaggc tgccccaggc  
 181 cctgtgcaga cacaccaggc cctcagccgc agcccatgga cctgcgggtg ggccagcggc  
 241 cccagtgga gccccacca gagcccatat tgcctggcct gcagcgtccc cagcgctgc  
 301 accaccacct ctcttagca ggctgcagc agcagcgtc ggtggagccc atgaggctct  
 361 ccatggacac gccgatgccc gagttgcagg tgggaccca ggaacaagag ctgcggcagc  
 421 ttctccaaa ggacaagagc aagcgaagt ctgtagccag cagcgtggtc aagcagaagc  
 481 tagcggaggt gattctgaaa aaacagcagg cggccctaga aagaacagtc catcccaaca  
 541 gccccggcat tcctacaga acctggagc cctggagac ggaaggagcc acccgctcca  
 601 tgctcagcag cttttgcct cctgttcca gcctgccag tgaccccca gagcattcc  
 661 ctctgcgaa gacagtctc gagcccaacc tgaagctgc ctataagccc aagaagtccc  
 721 tggagcggag gaagaatcca ctgtccgaa aggagagtgc gccccccagc ctccggcggc  
 781 ggcccgaga gacctcgga gactcctccc caagtagtag cagcacgccc gcatcagggt  
 841 gcagctccc caatgacagc gagcacggc ccaatccat cctgggcgac agtgaccgca  
 901 ggacccatcc gactctggc cctcgggggc caatcctggg gagccccac actccctct  
 961 tctgcccc tggcttgag cccgaggctg ggggcacctt gcctctcgc ctgcagcca  
 1021 ttctctct ggacccca ggctctcat cccgctgct gactgtccc gggcttgggc  
 1081 ccttgcctt ccatttgc cagtcttaa tgaccaccg gcggctctt gggtcaggcc  
 1141 tccactggc actgagccg actcgtcag agccctgcc cccagtgc accgctccc  
 1201 caccgccggg ccccatgcag cccgcctgg agcagctcaa aactcacgtc caggatga  
 1261 agaggtcag caagccgagt gagaagcccc ggctgcggca gataccctc gctgaagacc  
 1321 tggagacaga tggcggggga ccgggccagg tggtaggacg tggcctggag cacagggagc  
 1381 tggccatgg gcagctgag gccagaggcc ccgtcctct ccagcagcac cctcagggt  
 1441 tgctctggga acagcagca ctggctgggc ggctccccc gggcagcacc ggggacactg  
 1501 tgctgttcc tctggcccag ggtgggcacc ggctctgtc ccgggctcag tctccccag  
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 1621 cagagacccc tgccaggacc ctgccctca ccacagggt gatctatgac tgggtatgc  
 1681 tgaagacca gtgtcctgc ggtgacaaca gcaggcacc ggagcacgcc ggccgcatcc  
 1741 agagcatctg gtcccgctg caggagcggg ggctccggag ccagtgtgag tgtctccgag  
 1801 gccggaaggc ctccctgga gagctgcagt cggctccact tagcggcac gtgtcctct  
 1861 acggcaccaa ccgctcagc cgcctcaaac tggacaacgg gaagctggca gggctcctg  
 1921 cacagcggat gtttagatg ctgccctgtg gtggggttgg ggtggacact gacaccatc  
 1981 ggaatgagct tcattctcc aatgcagccc gctgggccc tggcagtgc actgacctc  
 2041 ccttcaagt ggttctcgt gagctaaaga atggttgc tgtgtgcgg cccccaggc  
 2101 accatgcaga tcattcaaca gccatgggt tctgtctt caactcagt gccatgcct  
 2161 gccggcagt gcaacagcag agcaaggcca gcaaggccag caagatctc attgtagact  
 2221 gggacgtgca ccatggcaac ggacccagc aaacctcta ccaagacccc agtgtctct  
 2281 acatctcct gcacgccat gacgacggca acttctccc ggggagtggt gctgtggatg  
 2341 aggtaggggc tggcagcggg gagggcttca atgcaatgt ggctgggct ggaggtctgg  
 2401 acccccccat gggggatct gactacctg ctgtctcag gatagctg atgcccacg  
 2461 cccgagagtt ctctccagac ctatcctgg tgtctgctg atttgatgt gctgagggtc  
 2521 acccggcccc actgggtggc taccatggt ctgccaatg ttttgatac atgacgcagc  
 2581 aactgatgaa cctggcagga ggcgagtg tctggcctt ggagggtggc catgacctca

Figure 7A (sheet 1/2)

2641 cagccatctg tgacgcctct gaggcctgtg tggctgctct tctgggtaac aggggtggatc  
 2701 ccctttcaga agaaggctgg aaacagaaac cccaacctca atgccatccg ctctctggag  
 2761 gccgtgatcc ggggtgcacag taaatactgg ggctgcatgc agcgcctggc ctctgtcca  
 2821 gactcctggg tgcctagagt gccaggggct gacaaagaag aagtggaggc agtgaccgca  
 2881 ctggcgctcc tctctgtggg catcctggct gaagataggc cctcggagca gctgggtggag  
 2941 gaggaagaac ctatgaatct ctaaggctct ggaacctatc gcccgccac catgcccttg  
 3001 ggacctggtt ctcttctaac ccctggcaat agcccccatt cctgggtctt tagagatcct  
 3061 gtgggcaagt agttggaacc agagaacagc ctgcctgctt tgacagtat cccagggagc  
 3121 gtgagaaaat c (SEQ ID NO: 14)

FIGURE 7B  
 (sheet 2/2)

09847913-03160  
 FOR "E.O." ET 627860

1 meepeepads gqslvpvyiy speyvsmcde lakipkrasm vhslicayal hkqmrivkpk  
61 vasmeematf htdaylqhlq kvsqegdddh pdsieyglgy dcpategifd yaaaiggati  
121 taaqclidgm ckvainwsgg whhakkdeas gfcylndavl gilrlrkfe rilyvdlldh  
181 hgdgvedafs ftskvmtvsl hkfspgffpg tgdvsdvlg kgryysvnpv iqdgigdeky  
241 yqicesvlke vyqafnpkav vlqlgadtia gdpmcsfnmt pvgigkclky ilqwqlatli  
301 lggggynlan tarcwtyltg vilgkltisse ipdhefftay gpdyleitp scrpdrneph  
361 riqqilnyik gnlkhvv (SEQ ID NO:15)

FIGURE 8A

1 gaaattcggc acgagctcgt gccgaattcg gcacgagaac gggtttaagc ggaagatgga  
 61 ggagccggag gaaccggcgg acagtgggca gtcgctggc ccggtttata tctatagtc  
 121 cgagtatgtc agtatgtgtg actccctggc caagatcccc aaacgggcca gtatggtgca  
 181 ttctttgatt gaagcatatg cactgcataa gcaaatgagg atagttaagc ctaaagtggc  
 241 ctccatggag gagatggcca cctccacac tgatgcttat ctgcagcatc tccagaaggt  
 301 cagccaagag ggcgatgatg atcatccgga ctccatagaa tatgggctag gttatgactg  
 361 cccagccact gaagggatat ttgactatgc agcagctata ggaggggcta cgtacacagc  
 421 tgcccaatgc ctgattgacg gaatgtgcaa agtagcaatt aactggctg gaggggtggca  
 481 tcatgcaaag aaagatgaag catctggttt ttgttatctc aatgatgctg tcctgggaat  
 541 attacgattg cgacggaaat ttgagcgtat tctctacgtg gatttggatc tgcaccatgg  
 601 agatgggtga gaagacgcat tcagtttcac ctccaaagtc atgaccgtgt ccctgcacaa  
 661 attcctccca ggattttcc caggaacagg tgacgtgtct gatgttggcc tagggaaggg  
 721 acggtactac agtgtaaatg tgcccatca ggatggcata caagatgaaa aatattacca  
 781 gatctgtgaa agtgactaa aggaagtata ccaagccttt aatcccaaag cagtggctct  
 841 acagctggga gctgacacaa tagctgggga tccatgtgc tctttaaca tgactccagt  
 901 ggggaattggc aagtgtctta agtacatcct tcaatggcag ttggcaacac tcattttggg  
 961 aggaggaggc tataaccttg ccaacacggc tcgatgctgg acatactga ccgggggtcat  
 1021 cctagggaaa acactatcct ctgagatccc agatcatgag ttttcacag catatgggtc  
 1081 tgattatgtg ctggaaatca cgccaagctg ccggccagac cgcaatgagc cccaccgaat  
 1141 ccaacaaatc ctcaactaca tcaaaggga tctgaagcat gtggtctagt tgacagaaag  
 1201 agatcagggt tccagagctg aggagtgggt cctataatga agacagcgtg tttatgcaag  
 1261 cagtttgtgg aatttgtgac tgcagggaaa atttgaaga aattacttcc tgaattttc  
 1321 caaggggcat caagtggcag ctggcttctt ggggtgaaga ggcaggcacc ccagagtcct  
 1381 caactggacc taggggaaga aggagatc ccacattta agttcttatt taacaaaca  
 1441 cacacacaca aatgaaattt ttaattctt gaaattattt ttaagcgaat tggggagggg  
 1501 agtattttta tcatcttaaa tgaaacagat cagaagctgg atgagagcag tcaccagtt  
 1561 gtagggcagg aggcagctga caggcagggn tngggcctn ggaccancca ngtggagccc  
 1621 tgggagagan ggtactgatc ngcagactgg gagg (SEQ ID NO:16)

FIGURE 8B

Figure 9A

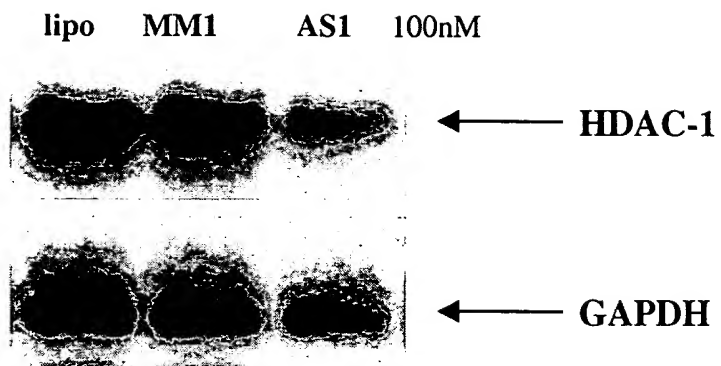


Figure 9B

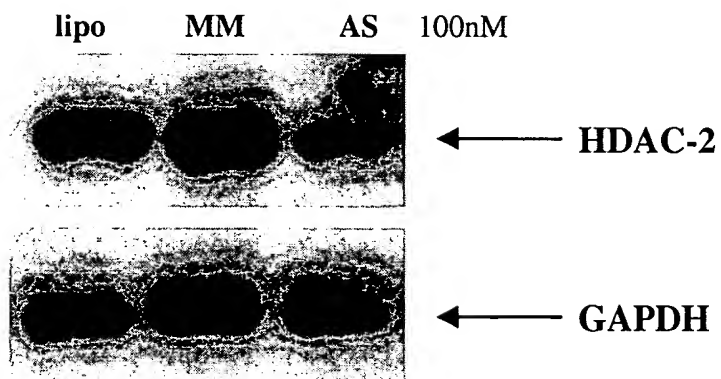
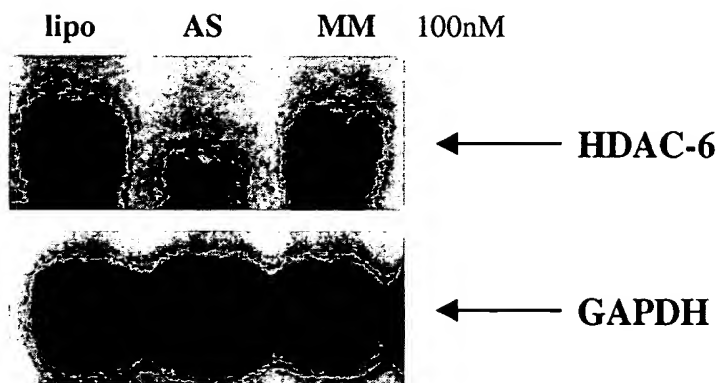


Figure 9C



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Figure 9 D

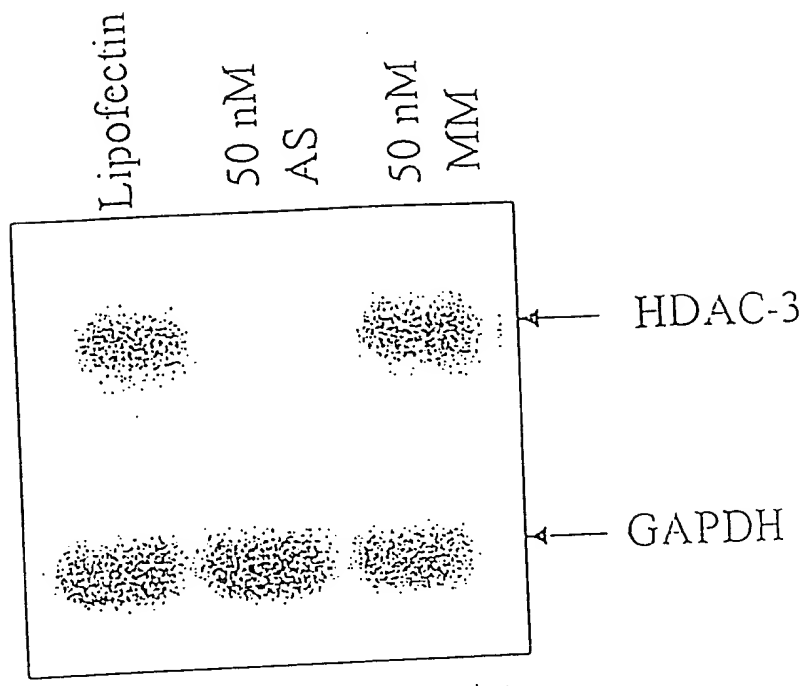


Figure 9 E

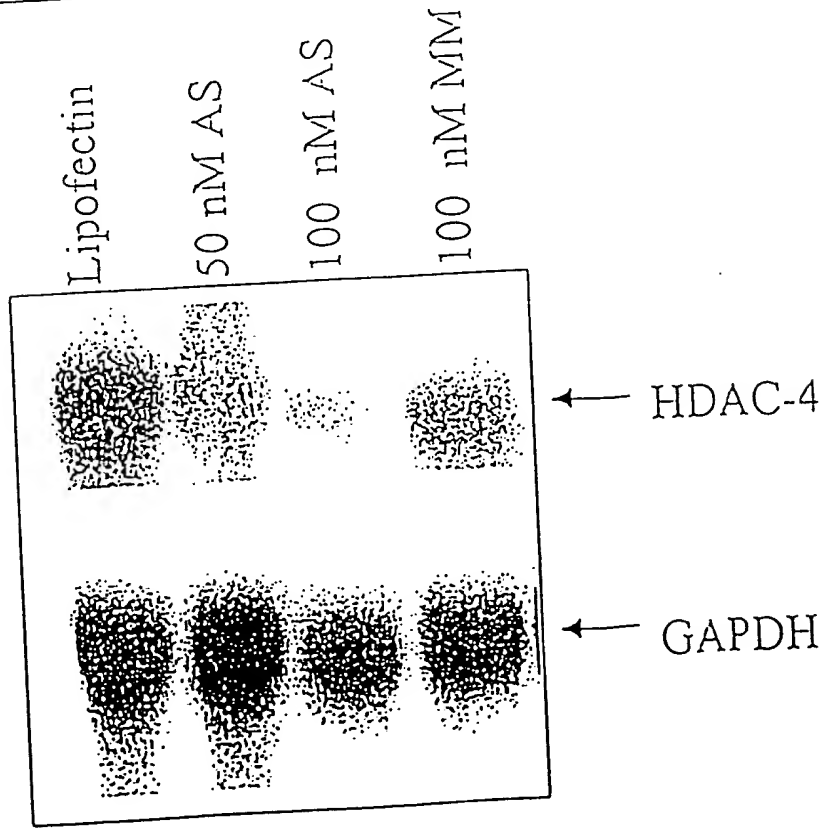


FIGURE 9 F

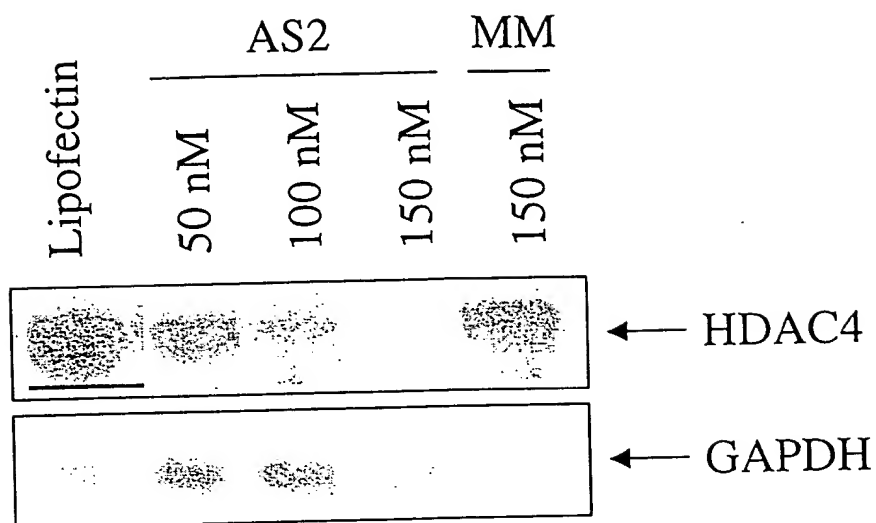


FIGURE 9 G

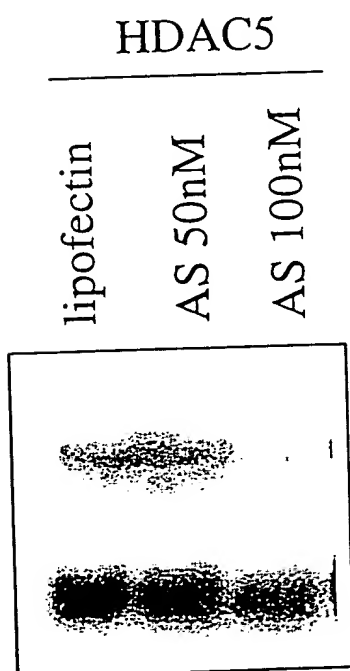


FIGURE 9 H

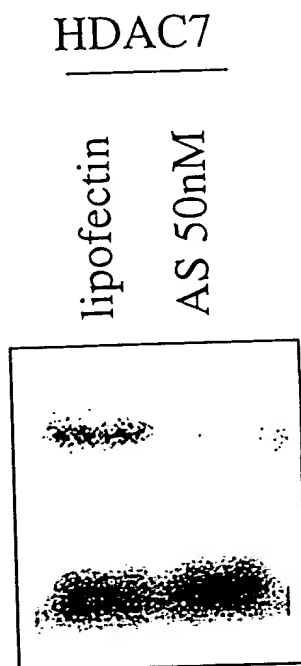


Figure 9I

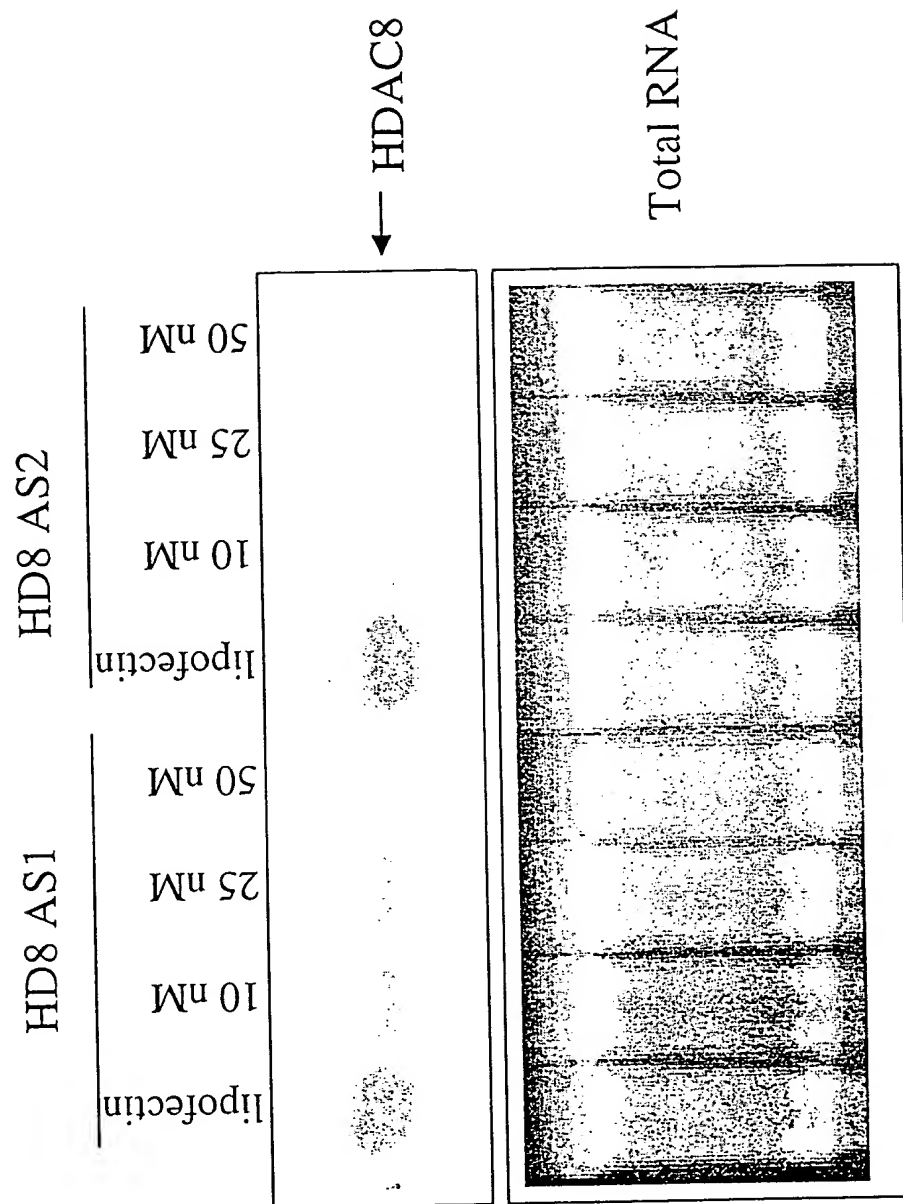
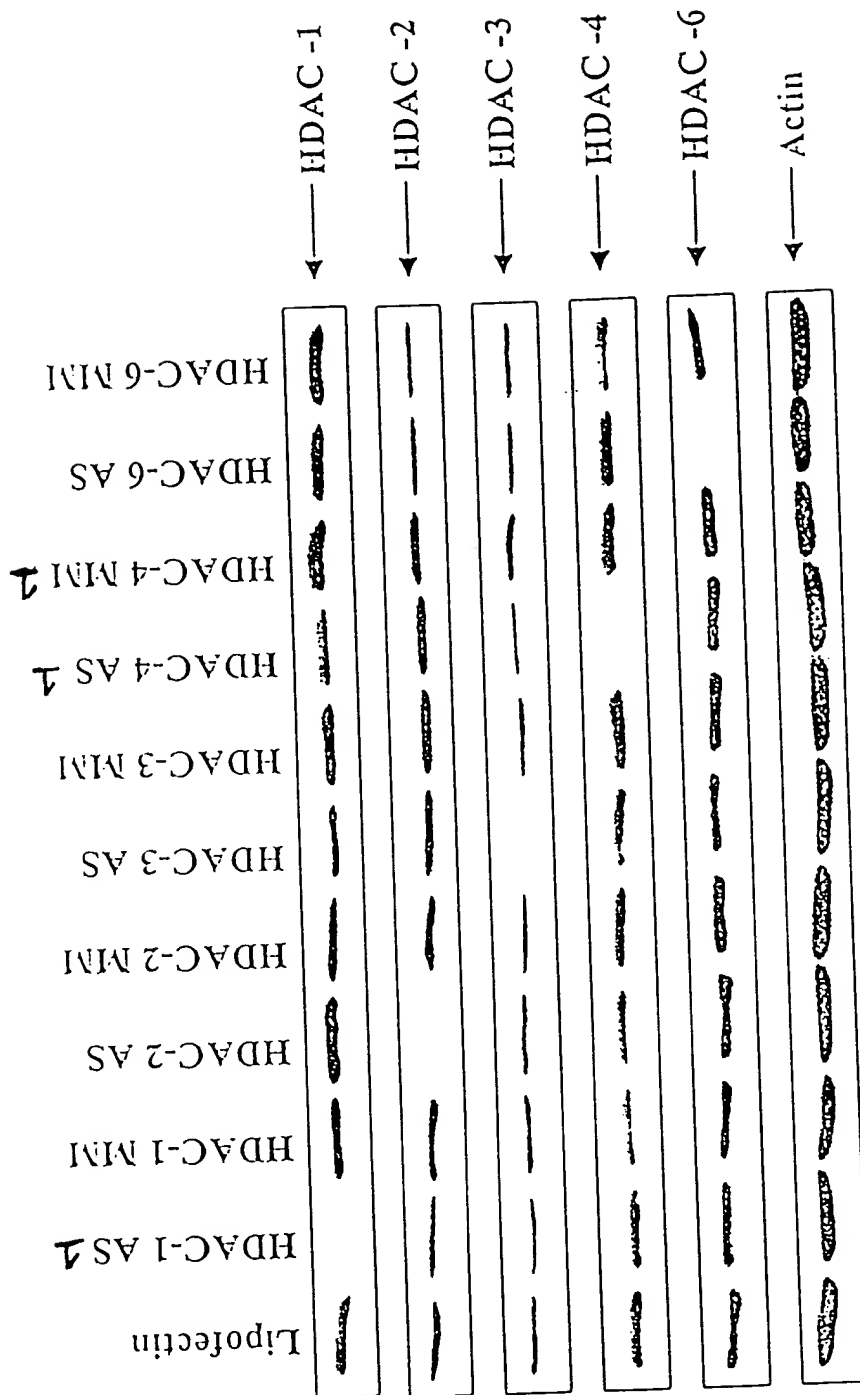




Figure 10 A



AS = Antisense  
 MM = Mismatch  
 NS = Non-specific control  
 3 day treatment  
 Oligonucleotide conc. = 50nM

Figure 10B

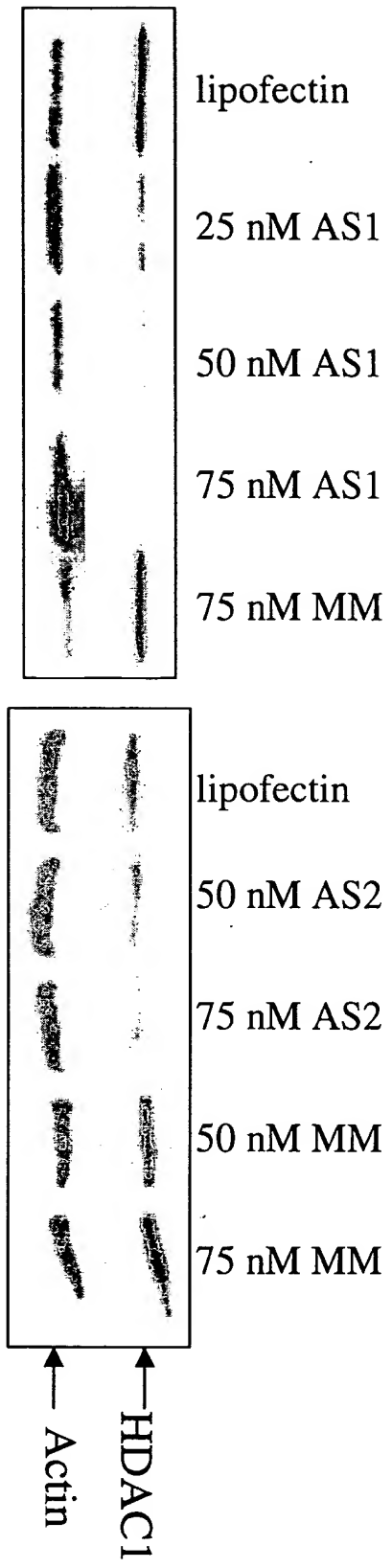


FIGURE 11

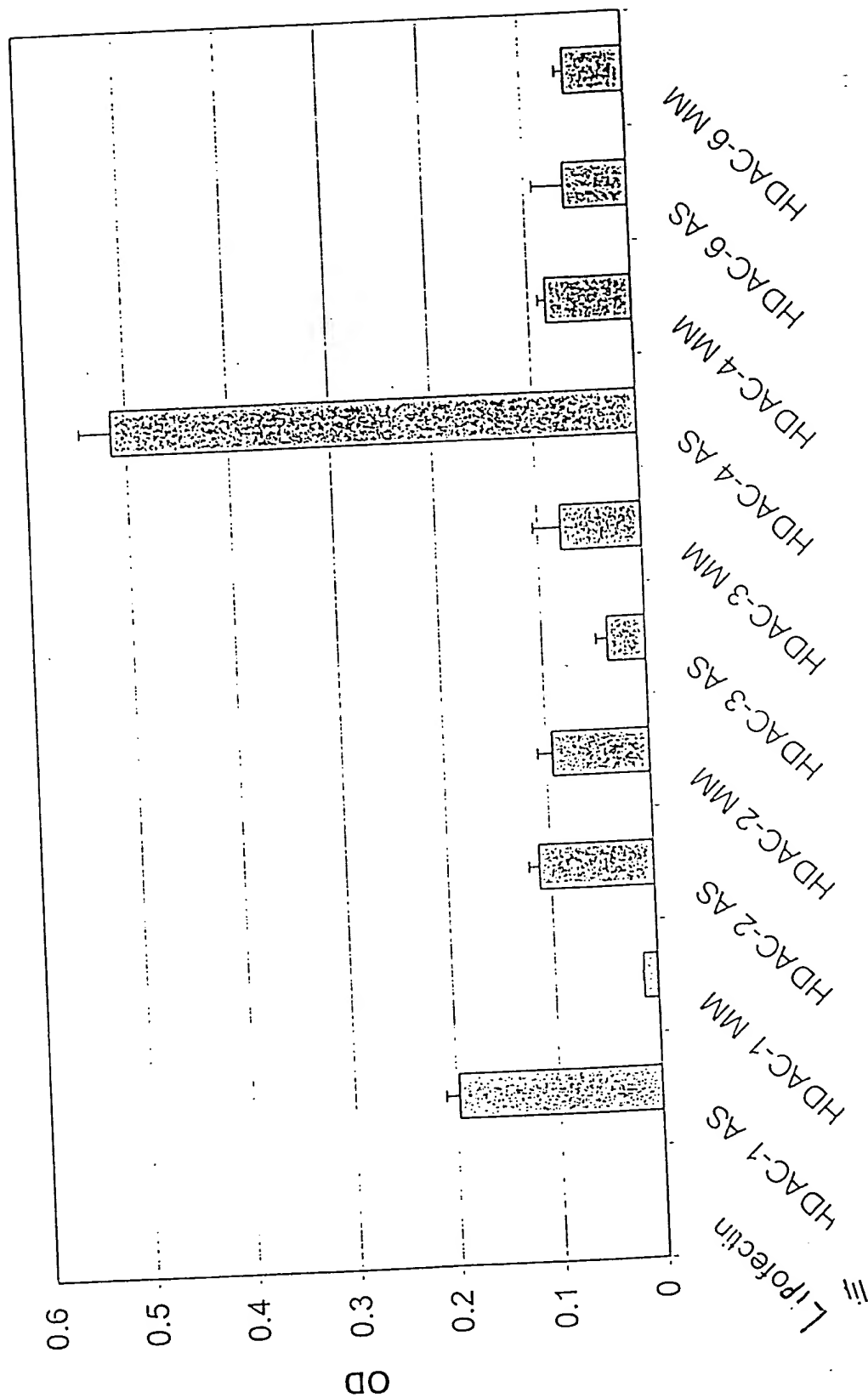


FIGURE 12A

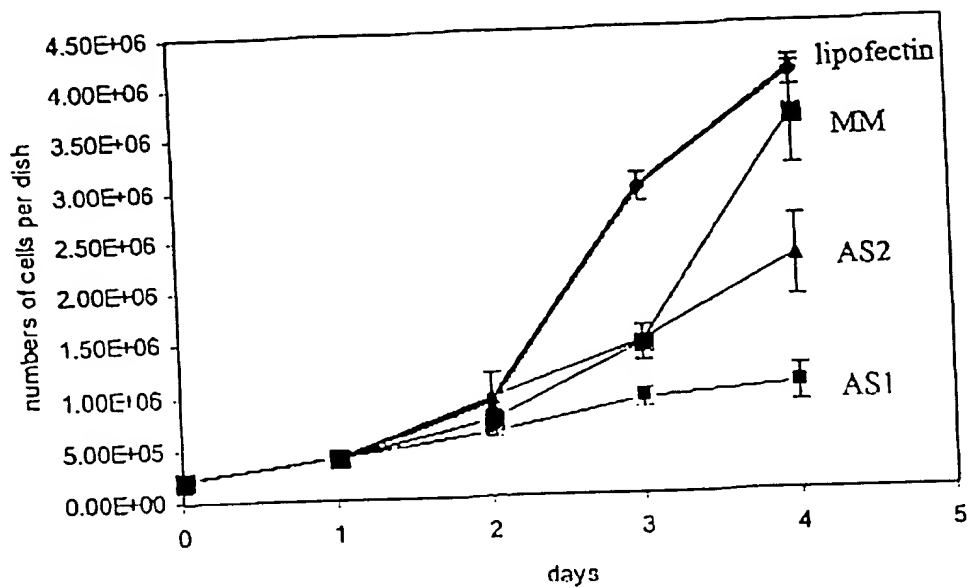
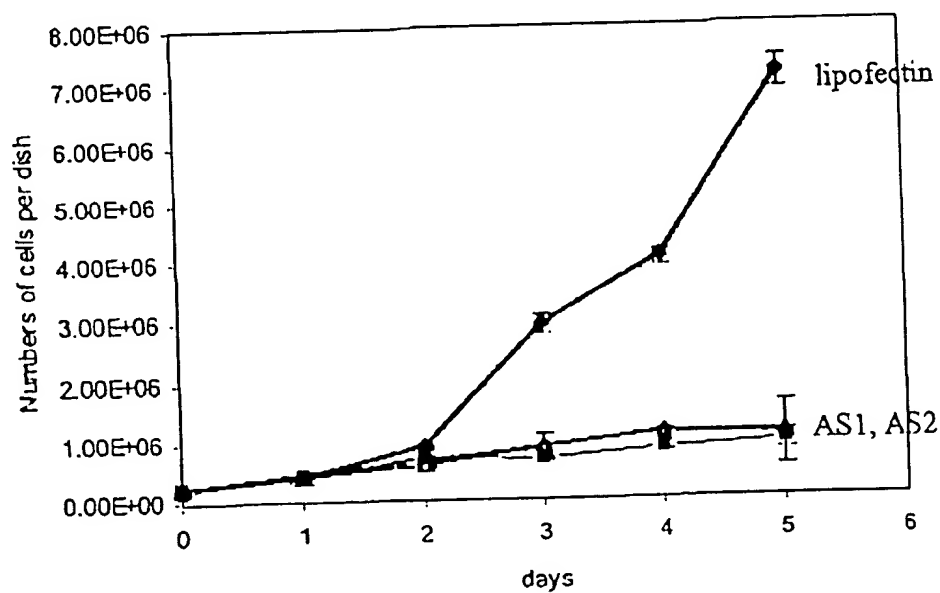


FIGURE 12B



% of Cells with DNA content ( $\geq 2N$ )

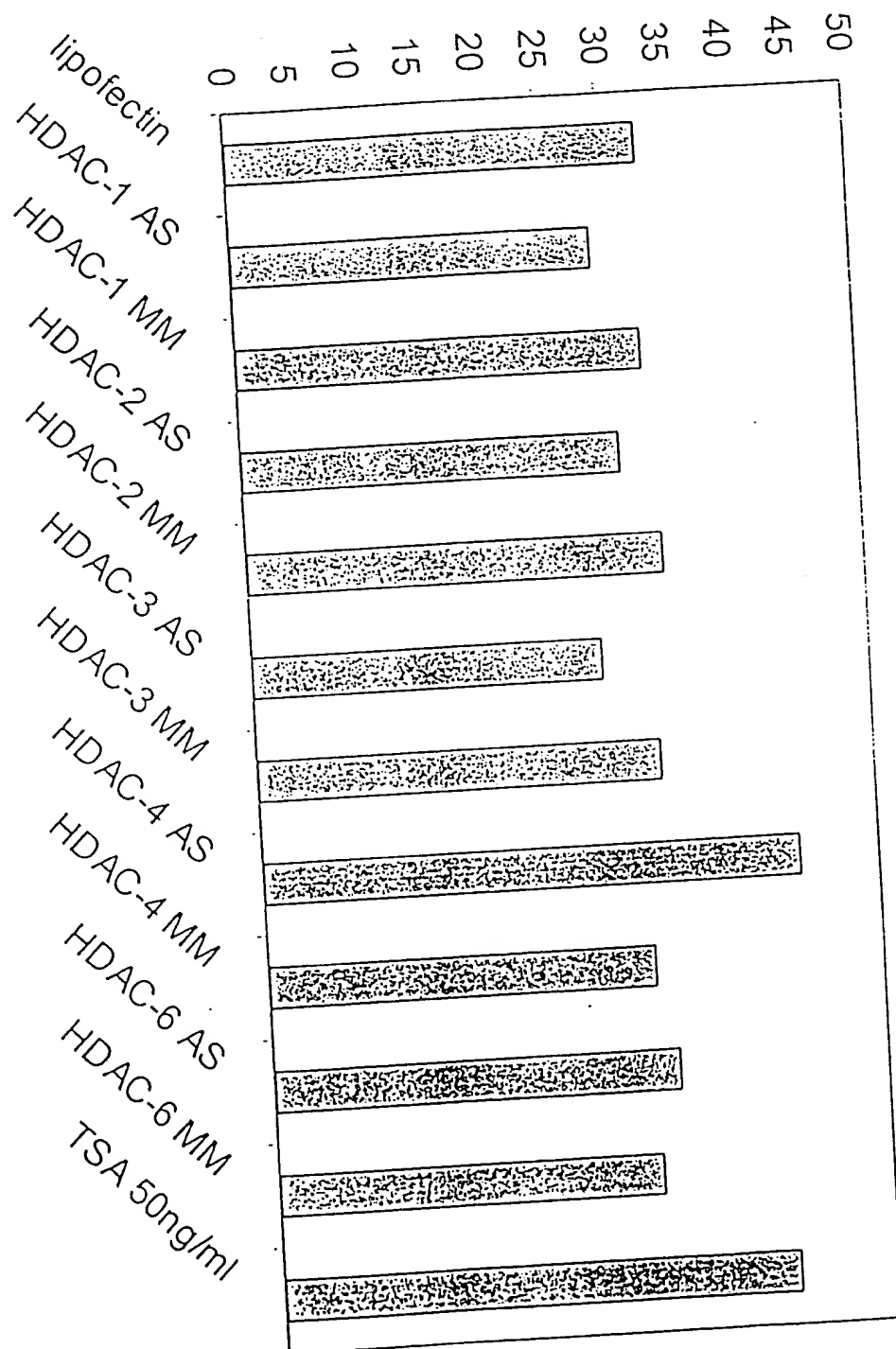


FIGURE 13

09817913.031601

FIGURE 14

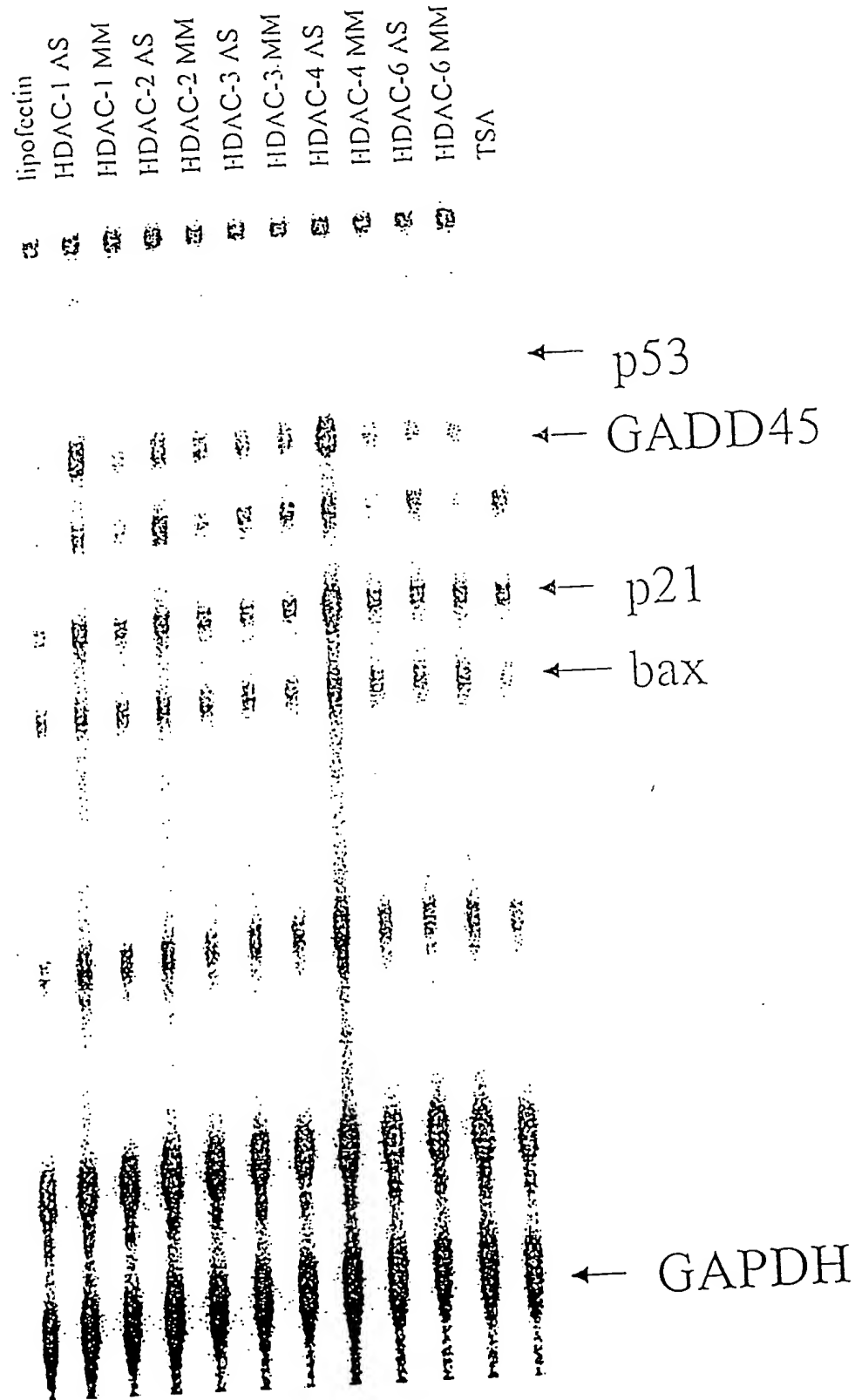


FIGURE 15

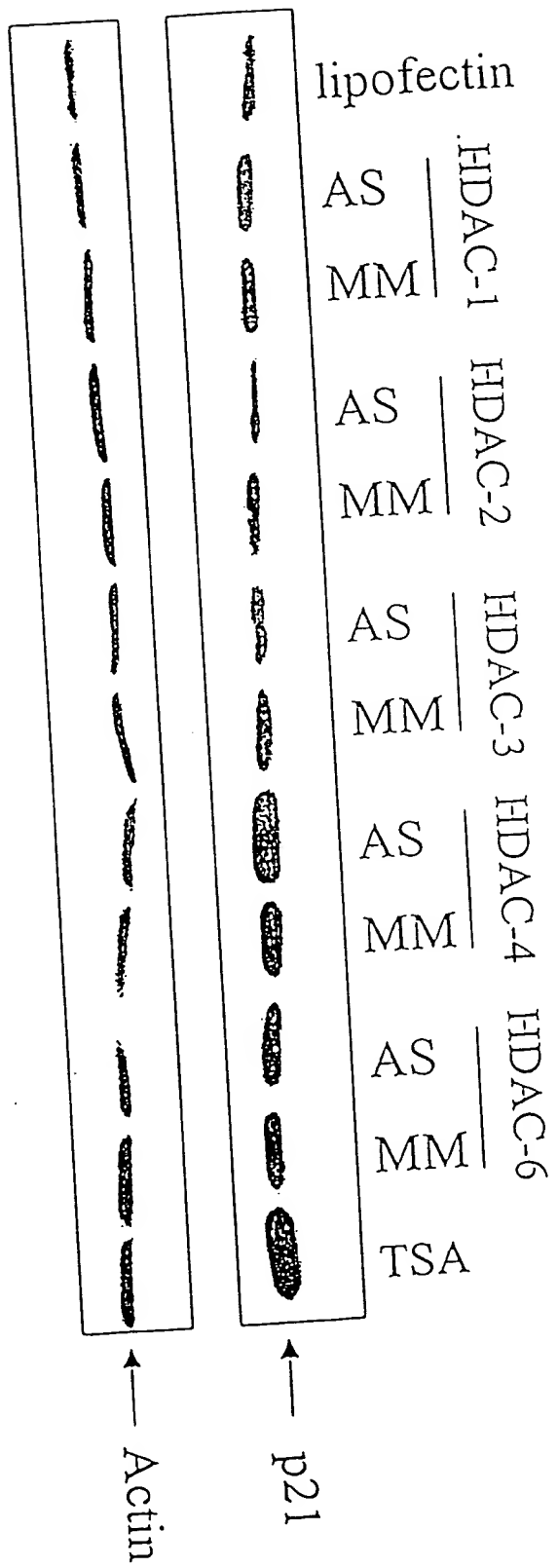


FIGURE 16

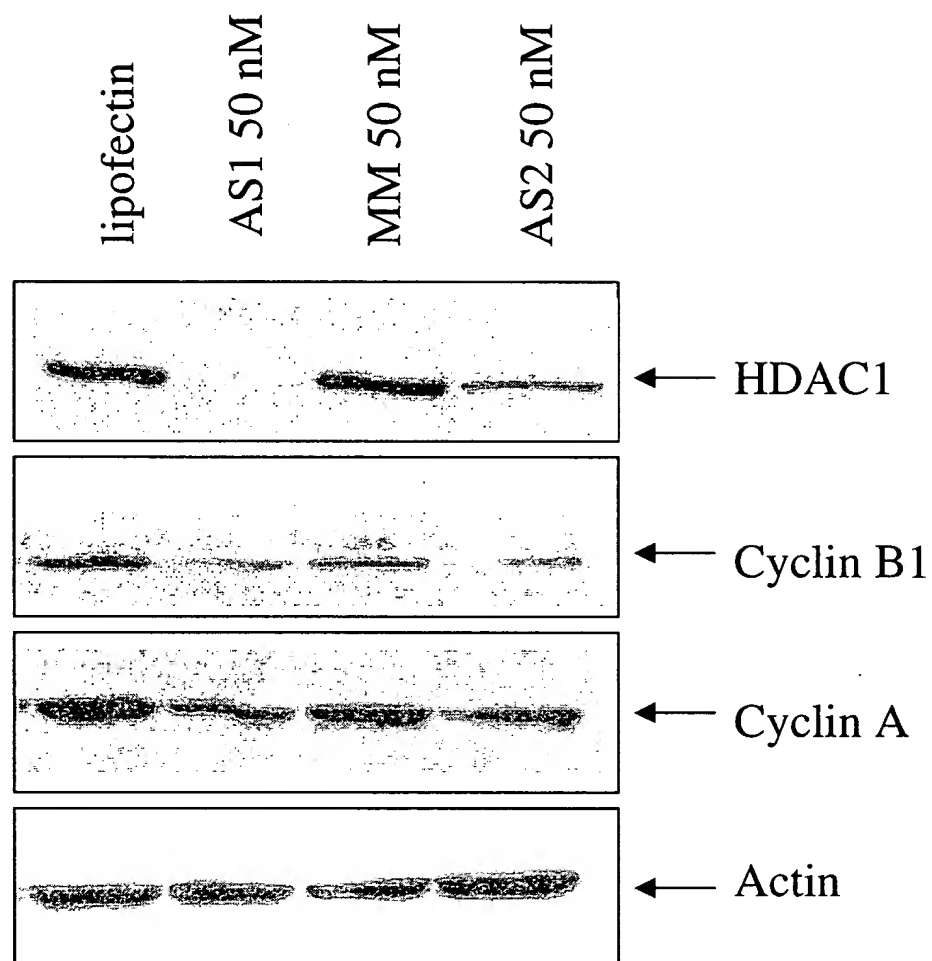




Figure 17

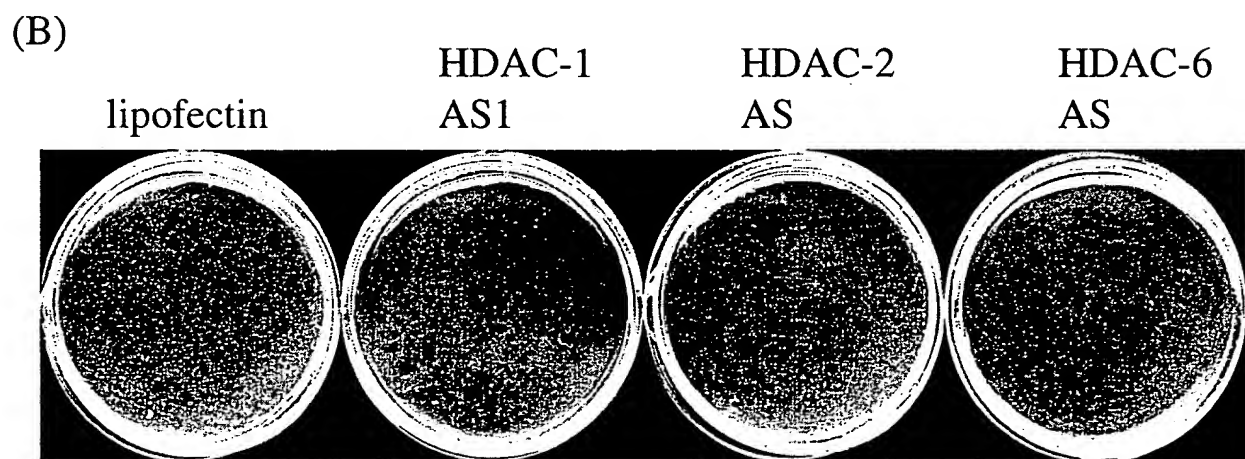
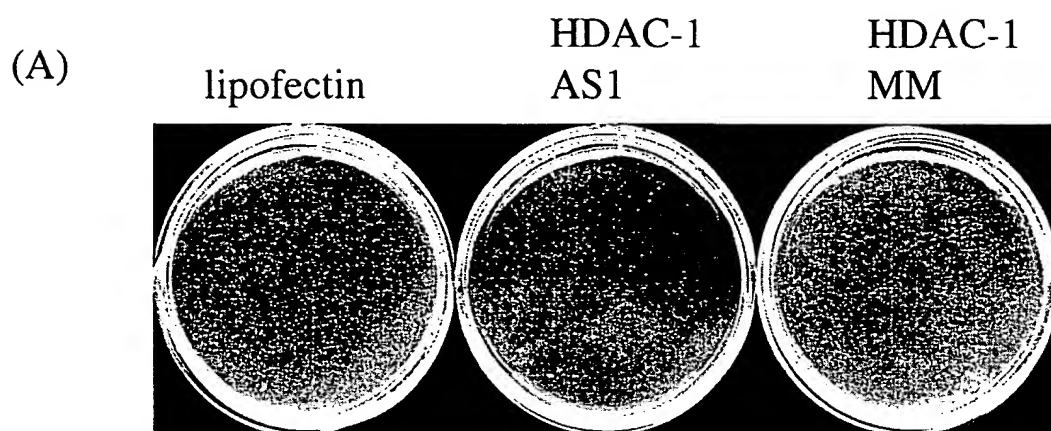
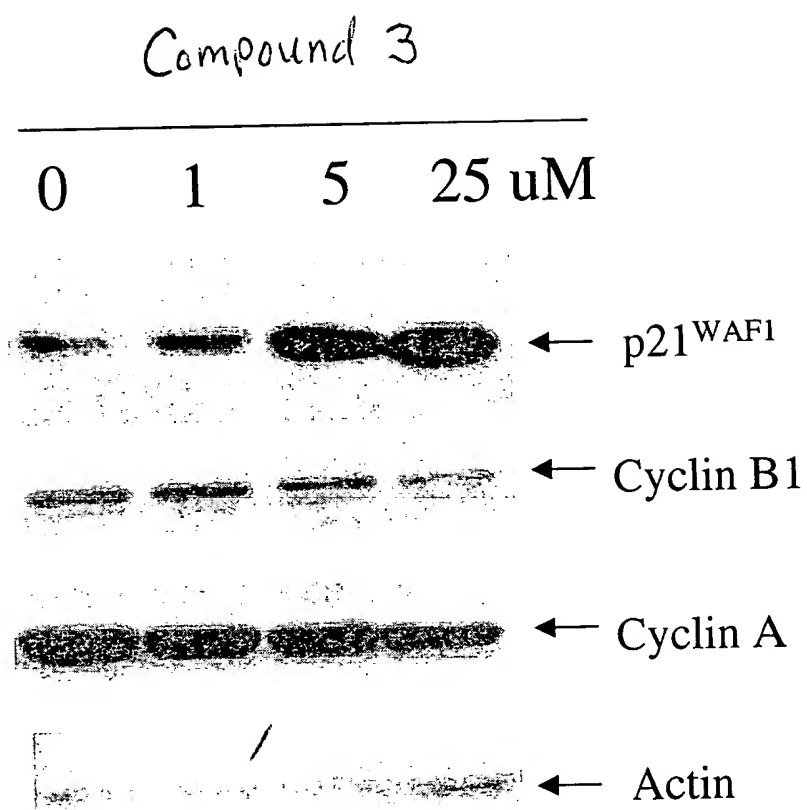


FIGURE 18



09817913-034601